DWeb Weekend 2025 - Saturday 8/16/2025

Roundtable Discussion 3.1

Title: *A P2P syllabus/textbook structure*

Time: *15:30 - 16:15*

Attendees: cft, greg, adz, suma, steven, michael

Note taker: adz

Please add your /initials/ at the front of a comment

General Notes

- Why did you join?
  - Michael
    - Is there an efficient way to learn about these things?
    - In university you'll not find about these things
  - Steven
    - Running local DWeb chapter
    - Have whitepaper discussion group there
    - A starting syllabus would be useful
  - adz
    - Writing tutorials
    - Doing a lecture series in Berlin soon
  - suma
    - Understanding
  - greg

        - Resonating with it
    - cft
        - Want to pollute the thinking of my students :-P
- cft: I'm coming from networking in the past
    - Switched to data-centric thinking instead
    - greg was at an initial session at the seminar and thought about it more from a network-centric direction
    - How can we accommodate for both directions at the same time?
    - Came up with title "Data Structures for p2p systems"
    - Introduction "what is p2p"
- 15 years ago there was a revolution with how you teach networking in universities
    - "Top down approach" today, you drill down
    - .. before much more low level
- This is for students, not for researchers
- What is the skill set you need to do p2p programming?
    - Onboarding of the next generation of programmers
- Syllabus:
    - Introduction to P2P
    - Shared data structure:
        - Chat, file replication, grow-only counter, append-only log, merkel trees, etc
    - Why this is hard
        - No global time
        - Consensus
            - Blockchain
        - Conflict-Free

    - Solutions
        - CRDTs
    - Real-World Examples
        - Bittorrent
        - Git
        - CRDTs applied to databases
        - "second wave"
            - Holochain
- Open-source wiki for P2P
    - Could working groups fill out the wiki? Students, working groups, etc
    -

Summary to be reported to the other DWeb Weekend participants

a)

b)

c)

name of the reporter